



901 S Division
Pinehurst, ID 83850
Office 208/682-9190
Fax 208/682-2737
www.ferguson-contracting.com

BHCTP Monthly Discharge Monitoring Report

Month: July-15

Facility: Central Treatment Plant

Location: Bunker Hill Superfund Site

Contract Number: W912DW-13-C-0026-P00007

Total Flow For The Month From 006 Outfall: 54,445,200 gallons
Sludge pumping to CIA sludge pond: 1,794,000 gallons

Total Flow From Kellogg Tunnel: 55,655,000 gallons

Percent of Influent Successfully Treated: 100.0%

14 sample days * 6 parameters (Pb, Cd, Zn, Mn, TSS & pH) = 84 potential exceedances
84 - 0 exceedances = 84 84/84 = 100%

Results of Sampling Efforts:

All sampling has been performed in accordance with specifications and the Sampling and Analysis Plan. QC and QA samples have been taken as required. All sample analysis results may be found within this DMR.

Performance Evaluation (PE) sampling for the CTP continued, with five PE samples delivered to SVL for this reporting period. The PE samples were identified as CTPXX (random CTP sites). These samples consisted of preserved 500-ml trace metal samples to be analyzed for Cd, Pb and Zn. The PE acceptable quantitation range is listed on the 'QC' page of this DMR.

Trip blank and rinsate samples were also taken, with the results being reported on the 'PTM-004, RB, TB' page of this DMR.

Highlights of Plant Maintenance and/or Plant Optimization:

07-01-15 Performed monthly fire extinguisher inspection. All CTP fire extinguishers are fully charged and in good working condition at this time.

07-01-15 Performed monthly pump and motor inspection. All CTP pumps and motors are in good condition at this time with the exception of the Rapid Mix gear box. Gear box vibration is increasing.

07-03-15 pH set point was increased to 8.5 from 8.3 as the KT flow has decreased from 1450 gpm to approximately 700. pH set point will be increased to 8.5 during extended KT low-flow periods.

07-04-15 FCI personnel provided site access and security for the fire department fireworks display activities as requested.

07-13-15 pH set point was increased to 8.5 from 8.3 as the KT flow has decreased from 1450 gpm to approximately 700. pH set point will be increased to 8.5 during extended KT low-flow periods.

07-14-15 Performed a no-load emergency generator run test and diagnostics. CTP generator was operated for 30 minutes with no issues or errors.

07-18-15 Chief Operator, USACE COR, Process Engineer and FCI Project Manager attended the monthly process meeting. Process quality, plant operations, contract period reports, OMER projects and operator work schedules were reviewed. Process Engineer reviewed mill discharge report provided by the EPA. pH set point increases during June were discussed. Treated outfall and KT discharge sample analyses were reviewed. The CTP treatment process is producing excellent discharge quality at this time. The pH set point will remain at 8.3. The AMD line cleaning schedule (July 20-24) was reviewed and discussed.

07-21-15 Performed the annual AMD line video inspection on all underground AMD pipelines. Operators performed annual draining of the Direct Feed Line prior to performing the pipeline video inspection.

07-22-15 Performed the annual AMD line cleaning. The AMD Main Line and Direct Feed Line were cleaned today.

Health and Safety Manager performed the required quarterly site inspection visit and activity hazard analysis review. Safety Manager also observed the annual AMD line cleaning activities.

07-23-15 Performed the AMD line post-cleaning video inspections. The Direct Feed Line was drained prior to the video inspection.

07-28-15 Operators performed the monthly full load emergency generator run test. The emergency generator operated all CTP components for one hour as programmed with no issues or errors to report.

07-28-15 Operators discovered several golf balls on the south side of the Clarifier. It is assumed that the balls are being launched from McKinley Avenue in an attempt to land them in the Clarifier. No golf balls have been found in the recycle pumps or piping.

07-28-15 Operators discovered drug paraphernalia, keys and money on the ground between the storage building and the 006 outfall. Operators notified the local police department. The police department removed the items from the CTP site. Operators performed a complete site and buildings inspection. No other items were found. Operators installed a lock on the small valve building located at the west end of the CTP site to prevent public access.

07-31-15 Approximately 750 gallons of water was received from Maul Foster and the CDA trust projects. The 750 gallons of water was transferred to the lined storage pond.

During this reporting period:

- The Kellogg Tunnel discharge flow decreased by 12% from July 2014, from 63.4 mg to 55.7 mg.
- The Kellogg Tunnel zinc concentration decreased by 17% from July 2014, from an average of 87 mg/L to 72 mg/L.
- The CTP operating pH set point remained at 8.3.
- The flocculent dosage remained at approximately 2 ppm.
- The CTP sludge recycle rate remained at 400 gpm.
- CTP operators received no off-shift auto dialer call-out alarms.
- CTP operators performed one pumping event from the Lined Storage Pond.
- CTP operators performed Aeration Basin pH probe and grab sample verification twice per day.
- **CTP operators observed no mill discharge in the Kellogg Tunnel flow.**

Lessons Learned

No significant lessons to report for last month.

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
2015	7	1		2015	7	31

PARAMETER		Quantity or Loading			Quality or Concentration				FREQUENCY OF ANALYSIS	SAMPLE TYPE
		MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS		
pH	Sample Measurement				7.02		7.28		Continuous	Meter
	Permit Required				6.0		10.0			
Flow Thru Treatment Plant	Sample Measurement	1.76	2.06	mgd						
	Permit Required		Daily							
Lead Total - Pb Effluent	Sample Measurement	0.05	0.06	lbs/day		0.003	0.004	mg/L	three samples/ week	Comp 24
	Permit Required	14.8	37.0			0.30	0.60	mg/L		
Zinc Total - Zn Effluent	Sample Measurement	3.24	4.31	lbs/day		0.22	0.29	mg/L	three samples/ week	Comp 24
	Permit Required	36.2	91.3			0.73	1.48	mg/L		
Cadmium - Cd Effluent	Sample Measurement	0.073	0.100	lbs/day		0.005	0.006	mg/L	three samples/ week	Comp 24
	Permit Required	2.40	6.10			0.050	0.100	mg/L		
Manganese - Mn Effluent	Sample Measurement	273.9	395	lbs/day		18.3	24.4	mg/L	three samples/ week	Comp 24
	No Permit Required					N/A	N/A	mg/L		
Total Suspended Solids - TSS	Sample Measurement	16.8	25	lbs/day		1.1	1.8	mg/L	three samples/ week	Comp 24
	Permit Required	985	1907			20	30	mg/L		

PREPARED BY: GARY FULTON

REVIEWED BY: Mark Reinsel, Ph.D., P.E.

**NPDES DISCHARGE POINT 006
CENTRAL TREATMENT PLANT
MONTH: Jul-15**

DAY	LEAD (Pb)		ZINC (Zn)		CADMIUM (Cd)		MANGANESE (Mn)		pH	FLOW mgd	TSS		LOADING kg/day
	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day			mg/L	lbs/day	
1	0.003	0.049	0.233	3.83	0.006	0.10	20.6	339	7.16	1.97	0.80	13.2	5.97
2										2.01			
3	0.003	0.049	0.266	4.31	0.006	0.09	24.4	395	7.28	1.94	1.00	16.2	7.34
4										1.47			
5										0.96			
6	0.003	0.023	0.293	2.22	0.005	0.04	20.5	155	7.23	0.91	1.80	13.6	6.18
7										1.69			
8	0.003	0.049	0.233	3.80	0.005	0.09	10.8	176	7.19	1.96	1.00	16.3	7.41
9										1.94			
10	0.003	0.047	0.196	3.07	0.004	0.07	13.7	215	7.24	1.88	1.20	18.8	8.54
11										2.06			
12										2.02			
13	0.003	0.050	0.226	3.80	0.005	0.08	21.1	354	7.19	2.01	0.60	10.1	4.57
14										1.11			
15	0.003	0.044	0.215	3.14	0.005	0.07	18.0	263	7.14	1.75	1.20	17.5	7.95
16										2.01			
17	0.003	0.051	0.219	3.75	0.005	0.08	17.5	299	7.18	2.05	1.40	24.0	10.9
18										1.98			
19										1.96			
20	0.003	0.049	0.181	2.94	0.005	0.08	18.4	299	7.18	1.95	1.20	19.5	8.8
21										1.36			
22	0.003	0.034	0.194	2.22	0.005	0.05	18.1	207	7.10	1.37	1.20	13.7	6.22
23										1.03			
24	0.003	0.038	0.205	2.61	0.004	0.06	13.7	175	7.02	1.53	0.60	7.65	3.47
25										1.97			
26										1.98			
27	0.003	0.050	0.200	3.35	0.005	0.08	17.0	285	7.11	2.01	1.20	20.1	9.13
28										1.88			
29	0.004	0.056	0.212	3.33	0.004	0.07	20.8	326	7.18	1.88	1.60	25.1	11.4
30										1.91			
31	0.003	0.048	0.190	3.01	0.005	0.08	21.8	346	7.16	1.90	1.20	19.0	8.63
Total	0.043	0.64	3.06	45.4	0.07	1.03	256.4	3834	100.4	54.45	16	234.8	106.5
Sample Events	14	14	14	14	14	14	14	14	14	31	14	14	14
Daily Average	0.003	0.05	0.22	3.24	0.005	0.07	18.3	274	7.17	1.76	1.14	16.77	7.61
Lab Detection Limit	0.004		0.003		0.001		0.004		0.01		0.800		

MIN	0.003	0.02	0.18	2.22	0.0042	0.04	10.80	155	7.02	0.91	0.60	7.65	3.47
MAX	0.0036	0.06	0.29	4.31	0.0061	0.10	24.40	395	7.28	2.06	1.80	25.10	11.39

**KELLOGG TUNNEL DISCHARGE
CENTRAL TREATMENT PLANT
MONTH: Jul-15
Data from SVL**

DAY	LEAD (Pb)		ZINC (Zn)		CADMIUM (Cd)		MANGANESE (Mn)		pH	006 FLOW		TSS	
	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day		mgd	mg/L	lbs/day	kg/day
1										1.97			
2	0.485	8.14	65	1,091	0.113	1.90	79	1,323	3.13	2.01	119	1,997	906
3										1.94			
4										1.47			
5										0.96			
6	0.578	4.37	120	908	0.233	1.76	38	286	2.87	0.91	34	257	117
7										1.69			
8										1.96			
9	0.502	8.13	74	1,192	0.110	1.78	80	1,290	3.03	1.94	112	1,813	822
10										1.88			
11										2.06			
12										2.02			
13	0.481	8.08	61	1,031	0.101	1.70	79	1,320	3.13	2.01	95	1,596	724
14										1.11			
15										1.75			
16	0.474	7.93	52	870	0.100	1.67	75	1,257	3.15	2.01	95	1,590	721
17										2.05			
18										1.98			
19										1.96			
20	0.492	7.99	54	875	0.100	1.62	76	1,230	3.18	1.95	91	1,477	670
21										1.36			
22										1.37			
23	0.539	4.65	107	924	0.204	1.76	34	292	2.83	1.03	15	130	59
24										1.53			
25										1.97			
26										1.98			
27	0.498	8.35	61	1,027	0.100	1.68	78	1,303	3.18	2.01	92	1,543	700
28										1.88			
29										1.88			
30	0.480	7.65	56	893	0.093	1.49	73	1,164	3.20	1.91	98	1,562	708
31										1.90			
Total	4.53	65.3	650.1	8,811	1.15	15	610	9,465	27.70	52.5	751	11,966	5,427
Sample Events	9	9	9	9	9	9	9	9	9	31	9	9	9
Daily Average	0.503	7.26	72	979	0.1	2	68	1,052	3.08	1.7	83	1,330	603

**PTM Effluent at Lined Storage Pond
CENTRAL TREATMENT PLANT**

Month: Jul-15

DATE	LEAD mg/L	ZINC mg/L	CADMIUM mg/L	pH s.u.	TSS mg/L
07/02/15	0.003	11.2	1.46	6.82	0.6
07/16/15	0.003	10.5	1.39	6.38	0.6
07/30/15	0.003	9.94	1.33	6.84	1.0

**RINSATE AND TRIP BLANKS
CENTRAL TREATMENT PLANT**

Month: Jul-15

**Rinsate and Trip Blank samples will be taken approximately every 20
QC events, or one each per month.**

LOCATION	DATE	SAMPLE	LEAD mg/L	ZINC mg/L	CADMIUM mg/L
Rinsate & Trip Blank					
Kellogg Tunnel Discharge		RB-07-23-15	<0.01	<0.004	<0.002
Trip Blank (D.I.water)		TB-07-23-15	<0.01	<0.004	<0.002

CENTRAL TREATMENT PLANT

MISCELLANEOUS FLOWS

Month : Jul-15

Date	KT Flow Meter Reading
6/30/2015	0
7/31/2015	55,655,000
Total	55,655,000

Date	006 Flow Meter Reading
6/30/2015	0
7/31/2015	54,445,200
Total	54,445,200

Sweeny Pump Station Reading				
Date	#1 Pump	620 gpm	#2 Pump	500 gpm
6/30/2015	170.0	Hours	785.0	Hours
7/31/2015	170.0	Hours	785.0	Hours
Total Hours	0.0	Hours	0.0	Hours
Total Flow for 004/Sweeny For The Month = 0 Gallons				

PTM Discharge Flow	
Date	Flow (gpm)
07/02/15	10.0
07/16/15	8.0
07/30/15	6.0

Date	Lined Storage Pond Water Level			
6/30/2015	1,000,000	gal	Elev. =	2269.0
7/31/2015	1,500,000	gal	Elev. =	2270.0

KELLOGG TUNNEL ANNUAL DISCHARGE FLOWS 2000-2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Jan.	61,000,000	61,677,510	54,606,100	53,066,890	52,223,080	53,150,000	56,050,900	56,281,000	53,465,820	50,936,960
Feb.	57,600,000	45,584,000	52,840,000	46,493,470	48,306,920	49,860,000	51,188,000	50,511,300	49,282,209	48,146,111
March	60,730,000	57,740,360	50,452,060	60,162,290	59,852,720	58,073,000	56,332,830	65,443,650	54,578,130	61,712,540
April	68,680,000	54,846,000	65,583,230	63,335,350	50,715,310	53,775,350	72,039,280	66,636,500	61,690,530	63,055,350
May	97,719,900	57,501,901	76,082,410	63,335,350	53,245,000	54,181,650	72,027,000	63,203,308	86,680,760	70,233,580
June	69,800,000	55,835,590	67,299,960	59,532,434	50,451,170	51,750,000	68,385,600	57,981,410	82,622,590	64,623,180
July	63,698,850	53,652,330	64,820,120	66,252,746	56,538,980	55,255,000	64,054,000	58,282,900	66,324,500	61,535,000
Aug.	66,707,120	45,289,000	58,212,940	62,074,750	52,002,140	49,970,000	64,621,000	55,335,900	65,168,620	56,446,670
Sept.	55,797,530	50,276,020	60,140,460	43,789,000	49,208,020	49,987,000	54,515,270	50,471,870	61,074,020	57,006,430
Oct.	60,424,720	50,660,840	54,485,871	52,869,290	59,601,690	52,807,000	57,610,030	50,086,330	58,666,300	55,830,000
Nov.	53,408,660	50,660,840	51,072,259	47,600,000	51,948,000	50,722,600	55,191,700	50,779,040	52,041,780	54,956,800
Dec.	56,414,870	53,464,780	56,034,000	56,413,080	56,770,000	54,904,400	60,486,900	53,716,210	55,727,260	54,542,700
Totals	771,981,650	637,189,171	711,629,410	674,924,650	640,863,030	634,436,000	732,502,510	678,729,418	747,322,519	699,025,321

KELLOGG TUNNEL ANNUAL DISCHARGE FLOWS 2010-2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jan.	55,503,180	61,797,170	58,434,610	61,855,400	57,478,450	58,440,540				
Feb.	50,819,910	54,556,227	57,763,170	59,383,290	54,607,950	59,767,470				
March	54,691,420	61,373,630	67,236,650	66,264,780	65,396,350	64,468,230				
April	56,255,340	65,687,340	81,233,630	69,619,100	65,618,770	63,056,840				
May	58,825,640	84,365,390	86,826,340	71,496,380	80,598,590	61,898,200				
June	56,770,200	79,985,540	83,440,990	64,663,900	65,623,330	56,368,540				
July	56,727,510	79,346,330	74,315,690	62,844,790	63,425,030	55,655,000				
Aug.	56,239,370	70,377,570	68,986,900	58,459,380	61,486,270					
Sept.	54,109,980	60,404,280	62,270,300	58,097,500	56,279,590					
Oct.	55,480,200	62,403,480	59,991,850	58,325,780	60,659,850					
Nov.	54,856,880	58,430,700	57,184,220	56,215,000	55,065,100					
Dec.	54,607,330	58,617,700	61,750,390	56,932,530	59,770,540					
Totals	664,886,960	797,345,357	819,434,740	744,157,830	746,009,820	419,654,820	0	0	0	0

 Yellow indicates record monthly or annual flow

KELLOGG TUNNEL ZINC DATA

<u>Month</u>	<u>Concentration (mg/L)</u>											
	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Jan.		86	81	79	63	70	61	72	57	68	41	46
Feb.		86	91	96	55	72	57	95	58	68	41	68
March		94	116	86	65	68	53	86	58	69	58	81
April		98	121	140	85	80	50	137	176	86	107	92
May		105	231	179	318	136	57	377	215	150	177	87
June		107	182	118	271	143	68	347	164	106	131	78
July		90	144	111	198	117	75	181	136	87	87	72
Aug.		87	112	92	132	94	79	130	110	86	76	
Sept.		84	107	80	107	76	81	132	107	75	66	
Oct.	59	81	100	88	99	75	70	86	70	67	63	
Nov.	66	79	88	88	104	63	57	95	71	70	55	
Dec.	67	62	78	65	76	59	61	88	69	54	49	
average	64	88	121	102	131	88	64	152	108	82	79	75
lime usage (tons/day)		2.59	3.23	2.76	4.78	3.24	2.16	4.31	3.93	2.46	2.70	
Zinc Conc. Increase/Decrease			37%	-16%	29%	-33%	-27%	138%	-29%	-24%	-4%	-6%
Lime Usage Increase/Decrease			25%	-15%	73%	-32%	-33%	100%	-9%	-37%	10%	-100%

Bunker Hill Central Treatment Plant

Daily log July 2015

DATE	OP	INFLUENT KT	pH	AERATION BASIN					CLARIFIER					DISCHARGE 006				RECYCLE SG		LIME SLURRY		SLUDGE PUMP		POND PUMP		SLUDGE GUN TEST		LINED POND							
				GPM	SET	a.m.		p.m.			pH2	pH1	TURB	TEMP	a.m.		p.m.		TURB	FLOW	SG	GPM	SG	%solid	Injection Valve	pump #	min	ON	OFF	10' Out	20' Out	ESTIMATED			
						pH1	pH2	grab	grab	grab					grab	grab	grab	grab															grab	grab	grab
7/1	GF,SB,GC			8.3	8.3	8.3	8.3	8.3	7.7	8.0	8.0	7.7	0.87	62	7.0	7.2	6.9	7.1	0.73	1.97	1.041	400	1.065	10.1	170/25	3	120					2269.0			
7/2	SB,GC	1424	3.04	8.3	8.3	8.3	8.3	8.3	7.8	7.9	8.0	7.8	0.83	64	7.0	7.2	7.4	7.3	0.70	2.01	1.038	400	1.066	10.2	166/25	3	120		13	14		2269.0			
7/3	GC			8.3	8.3	8.3	8.3	8.3	7.7	7.6	8.0	7.7	0.98	64	7.0	7.3	7.4	7.4	0.92	1.94	1.041	400	1.067	10.4	174/25	3	120					2269.0			
7/4	GC			8.5	8.3	8.2	8.6	8.6	7.6	7.7	7.9	7.8	0.95	64	7.4	7.4	7.8	7.4	0.91	1.47	1.032	400	1.065	10.1	228/20	3	60					2269.0			
7/5	SB			8.5	8.6	8.5	8.5	8.5	7.8	7.7	7.8	7.7	0.88	68	7.0	7.2	7.2	7.3	0.80	0.96	1.028	400	1.066	10.2	216/20	3	40					2269.0			
7/6	SB,GF	625	2.68	8.5	8.5	8.5	8.2	8.3	7.7	7.8	7.8	7.7	0.84	64	7.0	7.2	7.0	7.2	0.76	0.91	1.034	400	1.066	10.2	261/20	3	120					2269.0			
7/7	GF,SB,GC			8.3	8.3	8.4	8.3	8.3	7.7	7.8	7.6	7.7	0.60	63	6.9	7.2	7.0	7.1	0.59	1.69	1.042	400	1.065	10.1	165/25	3	120					2269.0			
7/8	GF,SB,GC			8.3	8.3	8.2	8.4	8.3	7.9	7.8	7.9	8.0	0.72	62	7.0	7.2	7.3	7.2	0.66	1.96	1.040	400	1.065	10.1	161/25	3	120					2269.0			
7/9	GF,SB,GC	1368	2.82	8.3	8.3	8.3	8.4	8.4	7.9	7.8	8.1	7.9	0.70	63	7.1	7.2	7.3	7.4	0.67	1.94	1.039	400	1.065	10.1	160/25	3	120					2269.0			
7/10	GF,GC			8.3	8.3	8.3	8.3	8.3	7.9	7.9	8.0	8.0	0.70	63	7.3	7.3	7.3	7.2	0.67	1.88	1.039	400	1.065	10.1	169/25	3	120					2269.0			
7/11	GC			8.3	8.3	8.3	8.4	8.3	7.9	7.8	7.8	7.7	0.82	65	7.3	7.4	7.1	7.1	0.73	2.06	1.038	400	1.066	10.2	173/25	3	120					2269.0			
7/12	SB			8.3	8.3	8.3	8.4	8.3	7.8	7.7	8.1	7.8	0.82	64	7.1	7.3	7.3	7.3	0.75	2.02	1.038	400	1.067	10.4	164/25	3	120					2269.0			
7/13	GF,SB	1390	2.93	8.3	8.3	8.3	8.4	8.4	7.9	7.9	8.0	7.9	0.78	63	7.0	7.2	7.4	7.3	0.70	2.01	1.039	400	1.069	10.7	173/25	3	120					2269.0			
7/14	GF,SB,GC			8.5	8.6	8.5	8.3	8.2	7.9	7.8	7.8	7.8	0.97	62	7.3	7.3	7.1	7.1	0.83	1.11	1.029	400	1.066	10.2	235/20	3	60					2269.0			
7/15	GF,SB,GC			8.3	8.3	8.3	8.3	8.3	7.9	7.9	7.9	7.9	0.78	61	7.1	7.2	7.1	7.3	0.73	1.75	1.041	400	1.067	10.4	162/25	3	120					2269.0			
7/16	GF,SB,GC	1493	2.92	8.3	8.4	8.3	8.3	8.3	8.0	7.9	7.9	8.0	0.86	63	7.2	7.1	7.1	7.1	0.76	2.01	1.041	400	1.066	10.2	168/25	3	110					2269.0			
7/17	GC			8.3	8.4	8.4	8.4	8.4	8.1	7.8	8.2	7.9	1.00	59	7.2	7.5	7.4	7.5	0.60	2.05	1.041	400	1.066	10.2	168/25	3	120					2269.0			
7/18	GC			8.3	8.3	8.3	8.4	8.4	8.0	7.7	8.2	7.9	0.92	61	7.1	7.5	7.5	7.7	0.82	1.98	1.040	400	1.065	10.1	171/25	3	120					2269.0			
7/19	SB			8.3	8.3	8.4	8.3	8.3	8.0	7.7	8.3	7.7	0.84	61	7.1	7.6	7.5	7.6	0.76	1.96	1.038	400	1.068	10.5	192/25	3	90					2269.0			
7/20	GF,SB	1416	2.98	8.3	8.3	8.3	8.3	8.3	8.0	7.9	8.2	8.0	0.80	62	7.3	7.2	7.5	7.3	0.73	1.95	1.046	400	1.066	10.2	182/25	3	130					2269.0			
7/21	GF,SB,GC			8.3	8.4	8.4	8.4	8.4	7.9	7.9	8.0	8.0	1.02	62	7.4	7.3	7.2	7.2	0.86	1.36	1.038	400	1.066	10.2	195/25	3	60					2269.0			
7/22	GF,SB,GC			8.3	8.3	8.3	8.3	8.3	7.9	7.9	8.2	7.9	0.90	61	7.0	7.1	7.3	7.3	0.81	1.37	1.043	400	1.066	10.2	183/25	3	120	#3-10:40	13:30			2270.0			
7/23	GF,SB,GC	653	2.75	8.5	8.5	8.5	8.3	8.3	8.0	7.9	8.0	8.0	1.00	59	7.2	7.2	7.2	7.3	0.92	1.03	1.035	400	1.070	10.8	255/20	3	90					2270.0			
7/24	GF,GC			8.3	8.4	8.3	8.3	8.3	7.9	7.9	8.0	8.0	0.90	61	7.1	7.2	7.2	7.3	0.80	1.53	1.043	400	1.068	10.5	191/25	3	90					2270.0			
7/25	GC			8.3	8.3	8.3	8.4	8.4	8.0	7.7	8.1	7.9	0.96	60	7.0	7.2	7.3	7.5	0.79	1.97	1.042	400	1.069	10.7	185/25	3	120					2270.0			
7/26	SB			8.3	8.3	8.4	8.3	8.4	7.8	7.8	8.0	7.9	0.93	63	6.9	7.1	7.1	7.3	0.80	1.98	1.038	400	1.068	10.5	181/25	3	100					2270.0			
7/27	GF,SB	1420	3.00	8.3	8.4	8.4	8.3	8.3	8.1	7.9	8.1	8.0	0.90	62	7.1	7.2	7.3	7.3	0.80	2.01	1.040	400	1.068	10.5	185/25	3	120					2270.0			
7/28	GF,SB,GC			8.3	8.4	8.4	8.3	8.3	8.0	7.8	8.2	7.8	1.05	61	7.2	7.5	7.4	7.4	0.94	1.88	1.039	400	1.065	10.1	196/25	3	120					2270.0			
7/29	GF,SB,GC			8.3	8.3	8.4	8.3	8.3	7.9	8.1	8.1	7.9	0.99	58	7.0	7.4	7.4	7.5	0.74	1.88	1.039	400	1.069	10.7	189/25	3	120					2270.0			
7/30	GF,SB,GC	1389	3.19	8.3	8.3	8.3	8.3	8.3	8.1	8.0	8.2	8.0	0.99	60	7.2	7.2	7.3	7.2	0.88	1.91	1.039	400	1.068	10.5	178/25	3	120					2270.0			
7/31	GC			8.3	8.3	8.3	8.4	8.4	7.9	7.7	8.1	7.8	1.12	62	7.1	7.4	7.4	7.4	0.81	1.90	1.039	400	1.066	10.2	207/25	3	120					2270.0			
Averages:				8.33	8.35	8.34	8.33	8.32	7.89	7.82	8.01	7.86	0.88		7.10	7.27	7.28	7.31	0.77	1.76	1.039											108			
																																		2990	
																																		1,794,000	Gallons
Notes:																																			
07-03-15 16:00 KT flow decreased from 1500 gpm to 700 gpm.																																			
07-06-15 10:30 KT flow increased from 625 gpm to 1480 gpm.																																			
07-13-15 10:30 KT flow decreased from 1400 gpm to 680 gpm.																																			
07-14-15 10:30 KT flow increased from 680 gpm to 1400 gpm.																																			
07-20-15 16:00 KT flow decreased from 1400 gpm to 680 gpm.																																			
07-21-15 CTP was placed in shutdown mode from 06:00 to 13:00 to perform the Direct Feed Line draining and video inspection.																																			
07-21-15 13:00 KT flow increased from 625 gpm to 1400 gpm.																																			
07-22-15 09:00 KT flow decreased from 1400 gpm to 625 gpm.																																			
07-22-15 CTP was placed in shutdown mode from 06:00 to 10:00 to perform Main Line and Direct Feed Line pigging.																																			
07-23-15 CTP was placed in shutdown mode from 06:00 to 12:00 to perform the Direct Feed Line draining and video inspection.																																			
07-30-15 Activated lime silo and slaker A, placed lime silo and slaker B in six-month shutdown mode. Lime slurry system 1 placed into service, system 2 place in six-month shutdown mode.																																			

Bunker Hill Superfund Site							
Kellogg, Idaho							
Central Treatment Plant Review							
Month: Jul-15							
SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
006/CTP Outfall	07/01/15	Cadmium	0.006	0.006	mg/L	1.7%	102%
		Lead	0.003	0.003	mg/L	0.0%	96%
Lab Duplicate		Manganese	20.6	20.6	mg/L	0.0%	88%
		Zinc	0.233	0.236	mg/L	-1.3%	93%
		pH	7.16	7.14	s.u.	0.3%	
		TSS	0.8	0.8	mg/L	0.0%	
PTM Discharge	07/02/15	Cadmium	1.46	1.46	mg/L	0.0%	
		Lead	0.003	0.003	mg/L	0.0%	
QC Sample		Manganese			mg/L		
		Zinc	11.2	11.4	mg/L	-1.8%	
		pH	6.82	6.85	s.u.	-0.4%	
		TSS	0.6	0.4	mg/L	40.0%	
Performance	07/02/15	Cadmium	0.054	0.050	mg/L	6.9%	
Evaluation		Lead	0.314	0.300	mg/L	4.6%	
Sample		Zinc	0.838	0.730	mg/L	13.8%	
(CTPXX-07-02-15)							
PE Lab Duplicate	07/02/15	Cadmium	0.054	0.053	mg/L	0.9%	96%
		Lead	0.314	0.316	mg/L	-0.6%	95%
		Manganese	0.002	0.002	mg/L	0.0%	98%
(CTPXX-07-02-15)		Zinc	0.838	0.829	mg/L	1.1%	90%
006/CTP Outfall	07/03/15	Cadmium	0.006	0.005	mg/L	13.1%	89%
		Lead	0.003	0.003	mg/L	0.0%	91%
Lab Duplicate		Manganese	24.4	24.1	mg/L	1.2%	93%
		Zinc	0.266	0.264	mg/L	0.8%	91%
		pH	7.28	7.28	s.u.	0.0%	
		TSS	1.8	1.8	mg/L	0.0%	
Kellogg Tunnel	07/06/15	Cadmium	0.233	0.234	mg/L	-0.4%	97%
		Lead	0.578	0.578	mg/L	0.0%	92%
Lab Duplicate		Manganese	37.8	37.7	mg/L	0.3%	112%
		Zinc	120	119	mg/L	0.8%	
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	07/06/15	Cadmium	0.005	0.005	mg/L	0.0%	88%
		Lead	0.003	0.003	mg/L	9.5%	89%
Lab Duplicate		Manganese	20.5	20.6	mg/L	-0.5%	87%
		Zinc	0.293	0.298	mg/L	-1.7%	89%
		pH	7.28	7.28	s.u.	0.0%	
		TSS	1.8	1.8	mg/L	0.0%	
006/CTP Outfall	07/08/15	Cadmium	0.005	0.006	mg/L	-5.5%	103%
		Lead	0.003	0.004	mg/L	-18.2%	96%
Lab Duplicate		Manganese	10.8	10.8	mg/L	0.0%	81%
		Zinc	0.233	0.233	mg/L	0.0%	92%
		pH	7.19	7.13	s.u.	0.8%	
		TSS	1.0	1.6	mg/L	-46.2%	
Performance	07/09/15	Cadmium	0.051	0.050	mg/L	1.4%	

SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
Evaluation		Lead	0.322	0.300	mg/L	7.1%	
Sample		Zinc	0.811	0.730	mg/L	10.5%	
(CTPXX-07-09-15)							
PE Lab Duplicate	07/09/15	Cadmium	0.051	0.051	mg/L	-0.8%	93%
		Lead	0.322	0.322	mg/L	0.0%	92%
		Manganese	0.002	0.002	mg/L	0.0%	95%
(CTPXX-07-09-15)		Zinc	0.811	0.811	mg/L	0.0%	92%
006/CTP Outfall	07/10/15	Cadmium	0.004	0.004	mg/L	-2.3%	
		Lead	0.003	0.003	mg/L	0.0%	
QC Sample		Manganese	13.7	13.9	mg/L	-1.4%	
		Zinc	0.196	0.198	mg/L	-1.0%	
		pH	7.24	7.26	s.u.	-0.3%	
		TSS	1.2	1.0	mg/L	18.2%	
006/CTP Outfall	07/10/15	Cadmium	0.004	0.004	mg/L	0.0%	97%
		Lead	0.003	0.003	mg/L	0.0%	91%
Lab Duplicate		Manganese	13.7	13.7	mg/L	0.0%	116%
		Zinc	0.196	0.192	mg/L	2.1%	92%
		pH	7.24	7.17	s.u.	1.0%	
		TSS	1.2	1.2	mg/L	0.0%	
006/CTP Outfall	07/13/15	Cadmium	0.005	0.004	mg/L	4.5%	97%
		Lead	0.003	0.003	mg/L	0.0%	91%
Lab Duplicate		Manganese	21.1	21.6	mg/L	-2.3%	92%
		Zinc	0.226	0.231	mg/L	-2.2%	93%
		pH	7.19	7.15	s.u.	0.6%	
		TSS	0.6	0.8	mg/L	-28.6%	
Kellogg Tunnel	07/13/15	Cadmium	0.101	0.100	mg/L	1.0%	96%
		Lead	0.481	0.479	mg/L	0.4%	88%
Lab Duplicate		Manganese	78.6	78.6	mg/L	0.0%	
		Zinc	61.4	61.9	mg/L	-0.8%	
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	07/15/15	Cadmium	0.005	0.005	mg/L	4.2%	97%
		Lead	0.003	0.003	mg/L	0.0%	91%
Lab Duplicate		Manganese	18.0	17.9	mg/L	0.6%	95%
		Zinc	0.215	0.216	mg/L	-0.5%	87%
		pH	7.14	7.11	s.u.	0.4%	
		TSS	1.2	1.2	mg/L	0.0%	
Performance	07/16/15	Cadmium	0.052	0.050	mg/L	3.1%	
Evaluation		Lead	0.304	0.300	mg/L	1.3%	
Sample		Zinc	0.794	0.730	mg/L	8.4%	
(CTPXX-07-16-15)							
PE Lab Duplicate	07/16/15	Cadmium	0.052	0.053	mg/L	-1.9%	93%
		Lead	0.304	0.318	mg/L	-4.5%	92%
		Manganese	0.002	0.002	mg/L	0.0%	95%
(CTPXX-07-16-15)		Zinc	0.794	0.813	mg/L	-2.4%	87%
006/CTP Outfall	07/17/15	Cadmium	0.005	0.005	mg/L	-2.0%	101%
		Lead	0.003	0.003	mg/L	0.0%	94%
Lab Duplicate		Manganese	17.5	17.6	mg/L	-0.6%	
		Zinc	0.219	0.218	mg/L	0.5%	91%
		pH	7.18	7.10	s.u.	1.1%	

SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
		TSS	1.4	1.2	mg/L	15.4%	
006/CTP Outfall	07/20/15	Cadmium	0.005	0.005	mg/L	0.0%	99%
		Lead	0.003	0.003	mg/L	0.0%	92%
Lab Duplicate		Manganese	18.4	19.1	mg/L	-3.7%	
		Zinc	0.181	0.187	mg/L	-3.3%	90%
		pH	7.18	7.11	s.u.	1.0%	
		TSS	1.2	1.2	mg/L	0.0%	
Kellogg Tunnel	07/20/15	Cadmium	0.100	0.102	mg/L	-2.0%	99%
		Lead	0.492	0.503	mg/L	-2.2%	92%
Lab Duplicate		Manganese	75.8	78.5	mg/L	-3.5%	110%
		Zinc	53.9	55.2	mg/L	-2.4%	83%
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	07/22/15	Cadmium	0.005	0.004	mg/L	19.8%	96%
		Lead	0.003	0.003	mg/L	0.0%	89%
Lab Duplicate		Manganese	18.1	18.2	mg/L	-0.6%	
		Zinc	0.194	0.192	mg/L	1.0%	87%
		pH	7.10	7.03	s.u.	1.0%	
		TSS	1.2	1.2	mg/L	0.0%	
Kellogg Tunnel	07/23/15	Cadmium	0.204	0.204	mg/L	0.0%	
		Lead	0.539	0.535	mg/L	0.7%	
QC Sample		Manganese	33.8	34.4	mg/L	-1.8%	
		Zinc	107	108	mg/L	-0.9%	
		pH	2.83	2.93	s.u.	-3.5%	
		TSS	15.0	15.0	mg/L	0.0%	
Performance	07/23/15	Cadmium	0.052	0.050	mg/L	3.5%	
Evaluation		Lead	0.322	0.300	mg/L	7.1%	
Sample		Zinc	0.809	0.730	mg/L	10.3%	
(CTPXX-07-23-15)							
PE Lab Duplicate	07/23/15	Cadmium	0.052	0.051	mg/L	1.0%	94%
		Lead	0.322	0.318	mg/L	1.3%	92%
		Manganese	0.002	0.002	mg/L	0.0%	92%
(CTPXX-07-23-15)		Zinc	0.809	0.803	mg/L	0.7%	92%
006/CTP Outfall	07/24/15	Cadmium	0.004	0.005	mg/L	-6.6%	99%
		Lead	0.003	0.003	mg/L	0.0%	91%
Lab Duplicate		Manganese	13.7	13.8	mg/L	-0.7%	
		Zinc	0.205	0.206	mg/L	-0.5%	90%
		pH	7.02	7.02	s.u.	0.0%	
		TSS	0.6	0.8	mg/L	-19.0%	
Kellogg Tunnel	07/27/15	Cadmium	0.100	0.101	mg/L	-1.0%	102%
		Lead	0.498	0.499	mg/L	-0.2%	95%
Lab Duplicate		Manganese	77.7	77.2	mg/L	0.6%	109%
		Zinc	61.2	60.6	mg/L	1.0%	106%
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	07/27/15	Cadmium	0.005	0.005	mg/L	4.3%	100%
		Lead	0.003	0.003	mg/L	0.0%	93%
Lab Duplicate		Manganese	17.0	17.0	mg/L	0.0%	
		Zinc	0.200	0.204	mg/L	-2.0%	94%
		pH	7.11	6.84	s.u.	3.9%	

SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
		TSS	1.2	1.4	mg/L	-15.4%	
006/CTP Outfall	07/29/15	Cadmium	0.004	0.005	mg/L	-9.1%	98%
		Lead	0.004	0.003	mg/L	18.2%	92%
Lab Duplicate		Manganese	20.8	20.8	mg/L	0.0%	90%
		Zinc	0.212	0.214	mg/L	-0.9%	93%
		pH	7.18	7.11	s.u.	1.0%	
		TSS	1.6	1.6	mg/L	0.0%	
Performance	07/30/15	Cadmium	0.051	0.050	mg/L	1.4%	
Evaluation		Lead	0.300	0.300	mg/L	0.0%	
Sample		Zinc	0.796	0.730	mg/L	8.7%	
(CTPXX-07-30-15)							
PE Lab Duplicate	07/30/15	Cadmium	0.051	0.052	mg/L	-1.8%	95%
		Lead	0.300	0.303	mg/L	-1.0%	94%
		Manganese	0.002	0.002	mg/L	0.0%	95%
(CTPXX-07-30-15)		Zinc	0.796	0.806	mg/L	-1.2%	93%
006/CTP Outfall	07/31/15	Cadmium	0.005	0.005	mg/L	-5.9%	98%
		Lead	0.003	0.003	mg/L	0.0%	90%
Lab Duplicate		Manganese	21.8	21.9	mg/L	-0.5%	
		Zinc	0.190	0.186	mg/L	2.1%	87%
		pH	7.16	7.13	s.u.	0.4%	
		TSS	1.2	1.2	mg/L	0.0%	
July 2015, Completeness		Cadmium	30	Valid	Total	30	
		Lead	30	Valid	Total	30	
		Manganese	25	Valid	Total	25	
		Zinc	30	Valid	Total	30	
		pH	17	Valid	Total	17	
		TSS	17	Valid	Total	17	
Monthly Performance Evaluation							
Acceptable Quantitation Range							
	Analyte	Concentration	Acceptable Quantitation Range				
		(mg/L)	(mg/L)				
	Cadmium	0.050	0.0458-0.0573				
	Lead	0.300	0.2588-0.3525				
	Zinc	0.730	0.6296-0.8395				
Note: The PE quantitation range (listed above) from our PE sample source is less than required in the contract. The contract limits (listed below) have been utilized for this evaluation.							
Note: Performance evaluation samples have been given the designation "CTPXX" for purposes of blind submission to the analytical laboratory.							

SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA	
LOCATION			RESULTS			% RPD	% RECOVERY	
	Analytical Requirements							
		Quantitation		Accuracy		Completeness		
	Cadmium	≤ 0.025 mg/L		80-120%		90%		
	Lead	≤ 0.15 mg/L		80-120%		90%		
	Manganese	≤ 0.025 mg/L		80-120%		90%		
	Zinc	≤ 0.30 mg/L		80-120%		90%		
	pH	≤ 0.1 pH unit		90-110%		90%		
	TSS	≤ 15 mg/L		75-125%		90%		

Bunker Hill Superfund Site							
Kellogg, Idaho							
Central Treatment Plant Review							
Month: Jul-15							
CONCENTRATION (mg/L)							
SAMPLE	DATE	PARAMETER	SPIKE	DUPLICATE	SPIKE	PRECISION	
LOCATION			ADDED	RESULT	RESULT	% RPD	COMMENTS
006/CTP Outfall	07/01/15	Cadmium	1.00	1.02	1.03	0.4%	
MS/MSD		Lead	1.00	0.955	0.963	0.8%	
		Manganese	1.00	21.6	21.4	0.8%	Sample conc. >> spike level
		Zinc	1.00	1.16	1.16	0.1%	
PE Sample	07/02/15	Cadmium	1.00	1.02	1.01	0.8%	
MS/MSD		Lead	1.00	1.27	1.26	0.3%	
CTPXX-07-02-15		Manganese	1.00	0.985	0.978	0.6%	Sample conc. >> spike level
		Zinc	1.00	1.75	1.74	0.7%	
006/CTP Outfall	07/03/15	Cadmium	1.00	0.897	0.896	0.1%	
MS/MSD		Lead	1.00	0.912	0.906	0.6%	
		Manganese	1.00	25.2	25.3	0.5%	Sample conc. >> spike level
		Zinc	1.00	1.18	1.17	0.5%	
KT QC Sample	07/06/15	Cadmium	1.00	1.22	1.21	0.8%	
MS/MSD		Lead	1.00	1.51	1.50	0.6%	
		Manganese	1.00	38.4	38.9	1.2%	Sample conc. >> spike level
		Zinc	1.00	120	120	0.1%	
006/CTP Outfall	07/06/15	Cadmium	1.00	0.884	0.885	0.1%	
MS/MSD		Lead	1.00	0.881	0.891	1.1%	
		Manganese	1.00	21.5	21.4	0.5%	Sample conc. >> spike level
		Zinc	1.00	1.18	1.19	0.2%	
006/CTP Outfall	07/08/15	Cadmium	1.00	1.03	1.04	0.5%	
MS/MSD		Lead	1.00	0.949	0.957	0.8%	
		Manganese	1.00	11.8	11.6	2.0%	Sample conc. >> spike level
		Zinc	1.00	1.15	1.16	0.3%	
PE Sample	07/09/15	Cadmium	1.00	0.981	0.979	0.2%	
MS/MSD		Lead	1.00	1.24	1.24	0.3%	
CTPXX-07-09-15		Manganese	1.00	0.938	0.948	1.0%	Sample conc. >> spike level
		Zinc	1.00	1.73	1.73	0.4%	
006/CTP Outfall	07/10/15	Cadmium	1.00	0.977	0.977	0.1%	
MS/MSD		Lead	1.00	0.902	0.911	1.0%	
		Manganese	1.00	14.8	14.9	0.6%	Sample conc. >> spike level
		Zinc	1.00	1.11	1.12	1.1%	
006/CTP Outfall	07/13/15	Cadmium	1.00	0.967	0.972	0.5%	
MS/MSD		Lead	1.00	0.895	0.906	1.3%	
		Manganese	1.00	22.1	22.0	0.5%	Sample conc. >> spike level
		Zinc	1.00	1.14	1.15	0.8%	
Kellogg Tunnel	07/13/15	Cadmium	1.00	1.07	1.06	0.7%	
MS/MSD		Lead	1.00	1.37	1.36	1.1%	
		Manganese	1.00	78.9	78.5	0.5%	Sample conc. >> spike level
		Zinc	1.00	67.7	62.8	7.5%	
PE Sample	07/16/15	Cadmium	1.00	0.973	0.986	1.3%	
MS/MSD		Lead	1.00	1.21	1.22	0.9%	
CTPXX-07-16-15		Manganese	1.00	0.942	0.954	1.3%	Sample conc. >> spike level
		Zinc	1.00	1.66	1.67	0.7%	
006/CTP Outfall	07/15/15	Cadmium	1.00	0.965	0.973	0.9%	
MS/MSD		Lead	1.00	0.905	0.911	0.6%	

		Manganese	1.00	18.5	18.9	2.1%	Sample conc. >> spike level
		Zinc	1.00	1.07	1.09	1.3%	
006/CTP Outfall	07/17/15	Cadmium	1.00	0.984	1.01	2.8%	
MS/MSD		Lead	1.00	0.910	0.939	3.1%	
		Manganese	1.00	18.5	18.9	2.1%	Sample conc. >> spike level
		Zinc	1.00	1.10	1.13	2.6%	
006/CTP Outfall	07/20/15	Cadmium	1.00	0.982	0.991	1.0%	
MS/MSD		Lead	1.00	0.918	0.924	0.6%	
		Manganese	1.00	19.5	19.8	1.8%	Sample conc. >> spike level
		Zinc	1.00	1.08	1.08	0.6%	
Kellogg Tunnel	07/20/15	Cadmium	1.00	1.07	1.09	1.2%	
MS/MSD		Lead	1.00	1.40	1.41	0.9%	
		Manganese	1.00	76.9	76.9	0.1%	Sample conc. >> spike level
		Zinc	1.00	53.9	54.7	1.5%	
006/CTP Outfall	07/22/15	Cadmium	1.00	0.968	0.967	0.0%	
MS/MSD		Lead	1.00	0.896	0.891	0.6%	
		Manganese	1.00	19.4	19.4	0.0%	Sample conc. >> spike level
		Zinc	1.00	1.07	1.07	0.1%	
PE Sample	07/23/15	Cadmium	1.00	0.987	0.992	0.5%	
MS/MSD		Lead	1.00	1.23	1.24	0.5%	
CTPXX-07-23-15		Manganese	1.00	0.869	0.917	5.4%	Sample conc. >> spike level
		Zinc	1.00	1.72	1.73	0.7%	
006/CTP Outfall	07/24/15	Cadmium	1.00	0.98	0.99	1.6%	
MS/MSD		Lead	1.00	0.891	0.905	1.6%	
		Manganese	1.00	14.8	15.0	1.6%	Sample conc. >> spike level
		Zinc	1.00	1.09	1.10	1.2%	
Kellogg Tunnel	07/27/15	Cadmium	1.00	1.12	1.12	0.1%	
MS/MSD		Lead	1.00	1.43	1.44	0.7%	
		Manganese	1.00	79.1	78.8	0.4%	Sample conc. >> spike level
		Zinc	1.00	91.7	92.2	0.9%	
006/CTP Outfall	07/27/15	Cadmium	1.00	1.02	1.00	1.7%	
MS/MSD		Lead	1.00	0.943	0.928	1.6%	
		Manganese	1.00	18.3	17.7	3.4%	Sample conc. >> spike level
		Zinc	1.00	1.18	1.14	2.1%	
006/CTP Outfall	07/28/15	Cadmium	1.00	0.983	0.988	0.5%	
MS/MSD		Lead	1.00	0.915	0.922	0.7%	
		Manganese	1.00	21.1	21.7	2.5%	Sample conc. >> spike level
		Zinc	1.00	1.13	1.14	0.7%	
PE Sample	07/30/15	Cadmium	1.00	0.991	0.996	0.6%	
MS/MSD		Lead	1.00	1.24	1.24	0.4%	
CTPXX-07-30-15		Manganese	1.00	0.948	0.953	0.6%	Sample conc. >> spike level
		Zinc	1.00	1.72	1.73	0.2%	
006/CTP Outfall	07/31/15	Cadmium	1.00	0.966	0.985	2.0%	
MS/MSD		Lead	1.00	0.888	0.899	1.2%	
		Manganese	1.00	22.5	22.5	0.1%	Sample conc. >> spike level
		Zinc	1.00	1.04	1.06	1.6%	

CTP Mine Water Line Open Channel Inspection Form

**Note: This form should be utilized weekly during the regular channel cleanout.
Results will be include with the Daily Quality Control Report and monthly DMR.**

Date: July 2, 2015 Inspected By: Gary Coast, Steve Brunner

Item Inspected	Condition	Comments
Channel Sections and Joints	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Inlet Connection @ KT	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Outlet/Pipeline Inlet	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Bottom (during low flows)	Good / Poor	<u>Ok</u>
Bottom Joints (during low flows)	Good / Poor	<u>Ok</u>
Trash Rack Assembly Rail Units	Good / Poor	<u>Check for corrosion and bolt tightness</u> <u>Ok</u>
Trash Racks	Good / Poor	<u>Removed debris from trash racks</u>
Parshall Flume	Good / Poor	<u>Check fiberglass and joint connections</u> <u>Ok</u>

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 2.05 mgd (1424 gpm), pH at this time is 3.05

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify fume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

Operators observed no mill discharge in the flume/trash rack area at this time.

CTP Mine Water Line Open Channel Inspection Form

**Note: This form should be utilized weekly during the regular channel cleanout.
Results will be include with the Daily Quality Control Report and monthly DMR.**

Date: July 09, 2015 Inspected By: Gary Coast, Steve Brunner

Item Inspected	Condition	Comments
Channel Sections and Joints	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Inlet Connection @ KT	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Outlet/Pipeline Inlet	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Bottom (during low flows)	Good / Poor	<u>Ok</u>
Bottom Joints (during low flows)	Good / Poor	<u>Ok</u>
Trash Rack Assembly Rail Units	Good / Poor	<u>Check for corrosion and bolt tightness</u> <u>Ok</u>
Trash Racks	Good / Poor	<u>Removed debris from trash racks</u>
Parshall Flume	Good / Poor	<u>Check fiberglass and joint connections</u> <u>Ok</u>

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 1.97 mgd (1368 gpm), pH at this time is 2.80.

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify fume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

Operators observed no mill discharge in the flume/trash rack area at this time.

CTP Mine Water Line Open Channel Inspection Form

**Note: This form should be utilized weekly during the regular channel cleanout.
Results will be include with the Daily Quality Control Report and monthly DMR.**

Date: July 16, 2015 Inspected By: Gary Fulton, Steve Brunner, Gary Coast

Item Inspected	Condition	Comments
Channel Sections and Joints	Good / Poor	Check for cracks Ok
Channel Inlet Connection @ KT	Good / Poor	Check for cracks Ok
Channel Outlet/Pipeline Inlet	Good / Poor	Check for cracks Ok
Channel Bottom (during low flows)	Good / Poor	Ok
Bottom Joints (during low flows)	Good / Poor	Ok
Trash Rack Assembly Rail Units	Good / Poor	Check for corrosion and bolt tightness Ok
Trash Racks	Good / Poor	Removed debris from trash racks
Parshall Flume	Good / Poor	Check fiberglass and joint connections Ok

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 2.15 mgd (1493 gpm), pH at this time is 2.92

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify fume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

Operators observed no mill discharge in the flume/trash rack area at this time.

CTP Mine Water Line Open Channel Inspection Form

**Note: This form should be utilized weekly during the regular channel cleanout.
Results will be include with the Daily Quality Control Report and monthly DMR.**

Date: July 23, 2015 Inspected By: Gary Coast, Steve Brunner

Item Inspected	Condition	Comments
Channel Sections and Joints	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Inlet Connection @ KT	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Outlet/Pipeline Inlet	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Bottom (during low flows)	Good / Poor	<u>Ok</u>
Bottom Joints (during low flows)	Good / Poor	<u>Ok</u>
Trash Rack Assembly Rail Units	Good / Poor	<u>Check for corrosion and bolt tightness</u> <u>Ok</u>
Trash Racks	Good / Poor	<u>Removed debris from trash racks</u>
Parshall Flume	Good / Poor	<u>Check fiberglass and joint connections</u> <u>Ok</u>

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 2.15 mgd (1493 gpm), pH at this time is 2.92.

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify fume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

Operators observed no mill discharge in the flume/trash rack area at this time.

CTP Mine Water Line Open Channel Inspection Form

**Note: This form should be utilized weekly during the regular channel cleanout.
Results will be include with the Daily Quality Control Report and monthly DMR.**

Date: July 30, 2015 Inspected By: Gary Coast, Steve Brunner

Item Inspected	Condition	Comments
Channel Sections and Joints	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Inlet Connection @ KT	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Outlet/Pipeline Inlet	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Bottom (during low flows)	Good / Poor	<u>Ok</u>
Bottom Joints (during low flows)	Good / Poor	<u>Ok</u>
Trash Rack Assembly Rail Units	Good / Poor	<u>Check for corrosion and bolt tightness</u> <u>Ok</u>
Trash Racks	Good / Poor	<u>Removed debris from trash racks</u>
Parshall Flume	Good / Poor	<u>Check fiberglass and joint connections</u> <u>Ok</u>

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 2.15 mgd (1493 gpm), pH at this time is 2.92.

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify fume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

Operators observed no mill discharge in the flume/trash rack area at this time.



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 01-Jul-15

Received: 01-Jul-15

Reported: 02-Jul-15 13:13

LAB #	W5G0001-01	-	-	-	-	-
SAMPLE ID	006-07-01-15	-	-	-	-	-
Reporting Unit	07/01/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0081 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0010 [4]	-	-	-	-
Manganese	0.0200 mg/L	20.6 [3]	-	-	-	-
Zinc	0.020 mg/L	0.233	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.16 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	0.6 [2]	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 02-Jul-15

Received: 06-Jul-15

Reported: 09-Jul-15 12:51

LAB #	WS00080-01	WS00080-02	WS00080-03	WS00080-04	-	-
SAMPLE ID	KT-07-02-15	PTM-07-02-15	QC-07-02-15	CTP06-07-02-15	-	-
Reporting Unit	07/02/2015 07:30	07/02/2015 08:00	07/02/2015 08:00	07/02/2015 07:00	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.113	1.46	1.46	0.0536	-
Lead	0.0500 mg/L	0.485 [4]	<0.0010 [5]	<0.0010 [5]	0.314	-
Manganese	0.0200 mg/L	78.8	-	-	-	-
Zinc	0.020 mg/L	65.1 [1]	11.2	11.4	0.838	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.13 [2]	6.82 [2]	6.85 [2]	-	-
Total Susp. Solids	5.0 mg/L	119	0.6 [3]	0.4 [3]	-	-

Kirby Gray
Technical Director

1891



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 03-Jul-15

Received: 06-Jul-15

Reported: 07-Jul-15 14:10

LAB #	W500079-01	-	-	-	-	-
SAMPLE ID	006-07-03-15	-	-	-	-	-
Reporting Unit	07/03/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0057 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	24.4 [3]	-	-	-	-
Zinc	0.020 mg/L	0.265	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.28 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.0	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 06-Jul-15
Received: 06-Jul-15
Reported: 07-Jul-15 14:11

LAB #	W500061-01	-	-	-	-	-
SAMPLE ID	006-07-06-15	-	-	-	-	-
Reporting Unit	07/06/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0053 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	20.5 [3]	-	-	-	-
Zinc	0.020 mg/L	0.283	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.23 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.8	-	-	-	-

John Kern
Laboratory Director

1891



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 06-Jul-15

Received: 06-Jul-15

Reported: 09-Jul-15 13:07

LAB #	W50062-01	-	-	-	-	-
SAMPLE ID	KT-07-09-15	-	-	-	-	-
Reporting Unit	07/06/2015 07:30	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.233	-	-	-	-
Lead	0.0500 mg/L	0.578	-	-	-	-
Manganese	0.0200 mg/L	37.8 [4]	-	-	-	-
Zinc	0.020 mg/L	120 [1] [4]	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	2.87 [2]	-	-	-	-
Total Susp. Solids	5.0 mg/L	34.0	-	-	-	-

Kirby Gray
Technical Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 08-Jul-15
Received: 08-Jul-15
Reported: 09-Jul-15 14:00

LAB #	W500118-01	-	-	-	-	-
SAMPLE ID	006-07-08-15	-	-	-	-	-
Reporting Unit	07/08/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0053 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [5]	-	-	-	-
Manganese	0.0200 mg/L	10.8 [3]	-	-	-	-
Zinc	0.020 mg/L	0.233	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.19 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.0 [4]	-	-	-	-

Kirby Gray
Technical Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 09-Jul-15
Received: 10-Jul-15
Reported: 14-Jul-15 11:32

LAB #	WS00196-01	WS00196-02	-	-	-	-
SAMPLE ID	KT-07-09-15	CTP09-07-09-15	-	-	-	-
Reporting Unit	07/09/2015 07:30	07/09/2015 07:00	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.110	0.0507	-	-	-
Lead	0.0500 mg/L	0.502	0.322	-	-	-
Manganese	0.0200 mg/L	79.7	-	-	-	-
Zinc	0.020 mg/L	73.6 [1]	0.811	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.03 [2]	-	-	-	-
Total Susp. Solids	5.0 mg/L	112	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 10-Jul-15
Received: 10-Jul-15
Reported: 13-Jul-15 16:15

LAB #		WS00195-01	WS00195-02	-	-	-	-
SAMPLE ID		006-07-10-15	QC-07-10-15	-	-	-	-
	Reporting Unit	07/10/2015 06:00	07/10/2015 06:00	-	-	-	-
Metals (Total) (Water)							
Cadmium	0.0100 mg/L	0.0043 [2]	0.0044 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0010 [4]	<0.0010 [4]	-	-	-	-
Manganese	0.0200 mg/L	13.7 [3]	13.9 [3]	-	-	-	-
Zinc	0.020 mg/L	0.198	0.198	-	-	-	-
Classical Chemistry Parameters (Water)							
pH	pH Units	7.24 [1]	7.26 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	1.0	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 13-Jul-15
Received: 13-Jul-15
Reported: 14-Jul-15 15:15

LAB #	W500229-01	-	-	-	-	-
SAMPLE ID	006-07-13-15	-	-	-	-	-
Reporting Unit	07/13/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0045 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	21.1 [3]	-	-	-	-
Zinc	0.020 mg/L	0.228	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.19 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	0.6 [2]	-	-	-	-

John Kern
Laboratory Director

1891



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 13-Jul-15
Received: 13-Jul-15
Reported: 14-Jul-15 15:17

LAB #	W500230-01	-	-	-	-	-
SAMPLE ID	KT-07-13-15	-	-	-	-	-
Reporting Unit	07/13/2015 07:30	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.101	-	-	-	-
Lead	0.0500 mg/L	0.481	-	-	-	-
Manganese	0.0200 mg/L	78.6 [4]	-	-	-	-
Zinc	0.020 mg/L	61.4 [1][4]	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.13 [2]	-	-	-	-
Total Susp. Solids	5.0 mg/L	95.0	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 15-Jul-15

Received: 15-Jul-15

Reported: 16-Jul-15 12:47

LAB #	W500276-01	-	-	-	-	-
SAMPLE ID	006-07-15-15	-	-	-	-	-
Reporting Unit	07/15/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0049 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	18.0 [3]	-	-	-	-
Zinc	0.020 mg/L	0.215	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.14 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 16-Jul-15
Received: 17-Jul-15
Reported: 21-Jul-15 14:35

LAB #		WS00352-01	WS00352-02	WS00352-03	-	-	-
SAMPLE ID		KT-07-16-15	PTM-07-16-15	CTPKX-07-16-15	-	-	-
	Reporting Unit	07/16/2015 07:30	07/16/2015 08:00	07/16/2015 07:00	-	-	-
Metals (Total) (Water)							
Cadmium	0.0100 mg/L	0.100	1.39	0.0516	-	-	-
Lead	0.0500 mg/L	0.474	0.0033 [2]	0.304	-	-	-
Manganese	0.0200 mg/L	75.1	-	-	-	-	-
Zinc	0.020 mg/L	52.0	10.5	0.794	-	-	-
Classical Chemistry Parameters (Water)							
pH	pH Units	3.15 [1]	6.38 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	95.0	0.6 [2]	-	-	-	-

John Kern
Laboratory Director

1891



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 17-Jul-15

Received: 17-Jul-15

Reported: 20-Jul-15 16:08

LAB #	W500351-01	-	-	-	-	-
SAMPLE ID	006-07-17-15	-	-	-	-	-
Reporting Unit	07/17/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0049 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [5]	-	-	-	-
Manganese	0.0200 mg/L	17.5 [3]	-	-	-	-
Zinc	0.020 mg/L	0.219	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.18 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.4 [4]	-	-	-	-

Kirby Gray
Technical Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 20-Jul-15
Received: 20-Jul-15
Reported: 21-Jul-15 14:37

LAB #	W500365-01	-	-	-	-	-
SAMPLE ID	006-07-20-15	-	-	-	-	-
Reporting Unit	07/20/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0048 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	18.4 [3]	-	-	-	-
Zinc	0.020 mg/L	0.181	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.18 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 20-Jul-15

Received: 20-Jul-15

Reported: 24-Jul-15 08:39

LAB #	W500366-01	-	-	-	-	-
SAMPLE ID	KT-07-20-15	-	-	-	-	-
Reporting Unit	07/20/2015 07:30	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.100	-	-	-	-
Lead	0.0500 mg/L	0.492	-	-	-	-
Manganese	0.0200 mg/L	75.8 [2]	-	-	-	-
Zinc	0.020 mg/L	53.9 [2]	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.18 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	91.0	-	-	-	-

Kirby Gray
Technical Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 22-Jul-15

Received: 22-Jul-15

Reported: 23-Jul-15 14:13

LAB #	W5G0456-01	-	-	-	-	-
SAMPLE ID	006-07-22-15	-	-	-	-	-
Reporting Unit	07/22/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0045 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0010 [4]	-	-	-	-
Manganese	0.0200 mg/L	18.1 [3]	-	-	-	-
Zinc	0.020 mg/L	0.194	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.10 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-

Kirby Gray
Technical Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 23-Jul-15
Received: 24-Jul-15
Reported: 28-Jul-15 13:38

LAB #		WS00501-01	WS00501-02	WS00501-03	WS00501-04	WS00501-05	-
SAMPLE ID		KT-07-23-15	QC-07-23-15	RB-07-23-15	TB-07-23-15	CTPXX-07-23-15	-
	Reporting Unit	07/23/2015 07:30	07/23/2015 07:30	07/23/2015 06:00	07/23/2015 06:00	07/23/2015 07:00	-
Metals (Total) (Water)							
Cadmium	0.0100 mg/L	0.204	0.204	<0.0009 [5]	<0.0009 [5]	0.0518	-
Lead	0.0500 mg/L	0.539	0.535	<0.0000 [5]	<0.0000 [5]	0.322	-
Manganese	0.0200 mg/L	33.8	34.4	-	-	-	-
Zinc	0.020 mg/L	107 [1]	108 [1]	0.007 [5]	<0.004 [5]	0.809	-
Classical Chemistry Parameters (Water)							
pH	pH Units	2.83 [2]	2.93 [2]	-	-	-	-
Total Susp. Solids	5.0 mg/L	15.0	15.0	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 24-Jul-15
Received: 24-Jul-15
Reported: 27-Jul-15 12:52

LAB #	W500500-01	-	-	-	-	-
SAMPLE ID	006-07-24-15	-	-	-	-	-
Reporting Unit	07/24/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0044 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [5]	-	-	-	-
Manganese	0.0200 mg/L	13.7 [3]	-	-	-	-
Zinc	0.020 mg/L	0.205	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.02 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	0.6 [2] [4]	-	-	-	-

John Kern
Laboratory Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 27-Jul-15

Received: 27-Jul-15

Reported: 28-Jul-15 13:42

LAB #	W500538-01	-	-	-	-	-
SAMPLE ID	KT-07-27-15	-	-	-	-	-
Reporting Unit	07/27/2015 07:30	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.100	-	-	-	-
Lead	0.0500 mg/L	0.498	-	-	-	-
Manganese	0.0200 mg/L	77.7 (4)	-	-	-	-
Zinc	0.020 mg/L	61.2 (1)(4)	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.18 (2)	-	-	-	-
Total Susp. Solids	5.0 mg/L	92.0	-	-	-	-

John Kern
Laboratory Director

1891



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 27-Jul-15

Received: 27-Jul-15

Reported: 28-Jul-15 13:40

LAB #	W500537-01	-	-	-	-	-
SAMPLE ID	006-07-27-15	-	-	-	-	-
Reporting Unit	07/27/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0048 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [6]	-	-	-	-
Manganese	0.0200 mg/L	17.0 [3]	-	-	-	-
Zinc	0.020 mg/L	0.200	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.11 [1] [4]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2 [5]	-	-	-	-

John Kern
Laboratory Director

1891



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 29-Jul-15
Received: 29-Jul-15
Reported: 30-Jul-15 15:56

LAB #	W500595-01	-	-	-	-	-
SAMPLE ID	006-07-29-15	-	-	-	-	-
Reporting Unit	07/29/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0042 [2]	-	-	-	-
Lead	0.0500 mg/L	0.0036 [2]	-	-	-	-
Manganese	0.0200 mg/L	20.8 [3]	-	-	-	-
Zinc	0.020 mg/L	0.212	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.18 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.6	-	-	-	-

Kirby Gray
Technical Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 30-Jul-15

Received: 31-Jul-15

Reported: 03-Aug-15 13:53

LAB #	WS00674-01	WS00674-02	WS00674-03	-	-	-
SAMPLE ID	KT-07-30-15	PTM-07-30-15	CTPX-07-30-15	-	-	-
Reporting Unit	07/30/2015 07:30	07/30/2015 08:00	07/30/2015 07:00	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0002	1.33	0.0007	-	-
Lead	0.0500 mg/L	0.480	<0.0030 [1]	0.300	-	-
Manganese	0.0200 mg/L	73.0	-	-	-	-
Zinc	0.020 mg/L	56.1 [1]	9.94	0.786	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.20 [2]	6.84 [2]	-	-	-
Total Susp. Solids	5.0 mg/L	96.0	1.0	-	-	-

Kirby Gray
Technical Director

1881



—

—

of 3



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 31-Jul-15

Received: 31-Jul-15

Reported: 03-Aug-15 13:51

LAB #	W500673-01	-	-	-	-	-
SAMPLE ID	006-07-31-15	-	-	-	-	-
Reporting Unit	07/31/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0049 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0010 [4]	-	-	-	-
Manganese	0.0200 mg/L	21.8 [3]	-	-	-	-
Zinc	0.020 mg/L	0.190	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.16 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-

Kirby Gray
Technical Director

1881



—

—

of 3